CLAIMS

1. An optical functional sheet comprising, at least within the sheet, light diffusing phases and transparent phases each extending in a direction perpendicular to the surface of the sheet, wherein the light diffusing phase and the transparent phase are alternately arranged along the sheet surface direction.

2. The optical functional sheet according to claim 1, wherein the light diffusing phases are arranged in a form of a continuous phase in which the light diffusing phases are mutually coupled in a direction along the sheet surface, and the transparent phases are arranged in a form of discontinuous phases in which the transparent phases are decoupled by the light diffusing phases.

3. The optical functional sheet according to claim 1, wherein the shape of a projected image of a transparent phase onto the sheet surface is selected from the group consisting of a trigon, tetragon, hexagon, circle and ellipsoid.

4. The optical functional sheet according to claim 2, wherein the shape of a projected image of a transparent phase onto the sheet surface is selected from the group consisting of a trigon, tetragon, hexagon, circle and ellipsoid.

5. The optical functional sheet according to claim 1, wherein a light diffusing phase is a transparent matrix component, in which fine particulate matter having a different refractive index from that of the matrix component is dispersed.

6. The optical functional sheet according to claim 2, wherein a light diffusing phase is a transparent matrix component, in which fine particulate matter having a different refractive index from that of the matrix component is dispersed.

7. The optical functional sheet according to claim 1, wherein the light diffusing phases contain a number of bubbles, and the transparent phases do not contain bubbles.

8. The optical functional sheet according to claim 2, wherein the light diffusing phases contain a number of bubbles, and the transparent phases do not contain bubbles.

9. The optical functional sheet according to claim 1, wherein a ratio of the length L of a transparent phase in a direction of the film thickness of the sheet to the length p of a transparent phase in a direction along the sheet surface (L/p), in any cross section of the sheet, is 2-10.

10. The optical functional sheet according to claim 2,

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wherein a ratio of the length L of a transparent phase in a direction of the film thickness of the sheet to the length p of a transparent phase in a direction along the sheet surface (L/p), in any cross section of the sheet, is 2-10.

11. The optical functional sheet according to claim 1, wherein the shapes of the cross sections of the light diffusing phases and the transparent phases in a direction normal to the sheet surface are selected from the group consisting of rectangle, square, parallelogram, trapezoid, trigon, campanulate or bell shape, horn shape, ellipsoid, and combinations thereof.

12. The optical functional sheet according to claim 2, wherein the shapes of the cross sections of the light diffusing phases and the transparent phases in a direction normal to the sheet surface are selected from the group consisting of rectangle, square, parallelogram, trapezoid, trigon, campanulate or bell shape, horn shape, ellipsoid, and combinations thereof.

13. The optical functional sheet according to claim 1, wherein a ratio of the length L' of a light diffusing phase in a direction of the film thickness of the sheet to the length q of a light diffusing phase in a direction along the sheet surface (L'/q), in any cross section of the sheet, is not less than 1.

14. The optical functional sheet according to claim 2, wherein a ratio of the length L' of a light diffusing phase in a direction of the film thickness of the sheet to the length q of a light diffusing phase in a direction along the sheet surface (L'/q), in any cross section of the sheet, is not less than 1.

15. The optical functional sheet according to claim 1, wherein an area ratio of area of the light diffusing phases to area of the transparent phases within the surface of the sheet is 1/50 - 1/1.

16. The optical functional sheet according to claim 2, wherein an area ratio of area of the light diffusing phases to area of the transparent phases within the surface of the sheet is 1/50 - 1/1.

17. The optical functional sheet according to claim 1, wherein the film thickness is 10 - 500 μm.

18. The optical functional sheet according to claim 2, wherein the film thickness is 10 - 500 μm.

19. A combined optical functional sheet comprising (1) an optical functional sheet according to claim 1 and (2) another optical functional sheet.

20. A combined optical functional sheet comprising (1) an optical functional sheet according to claim 2 and (2) another optical functional sheet.

21. The combined optical functional sheet according to claim 19, wherein the another optical functional sheet (2) is a light diffusive sheet comprising a transparent matrix component in which fine particulate matter having a different refractive index from that of the matrix component is dispersed.

22. The combined optical functional sheet according to claim 20, wherein the another optical functional sheet (2) is a light diffusive sheet comprising a transparent matrix component in which fine particulate matter having a different refractive index from that of the matrix component is dispersed.

23. A backlight for a liquid crystal display comprising an optical functional sheet according to claim 1 and a light guiding plate.

24. A backlight for a liquid crystal display comprising an optical functional sheet according to claim 2 and a light guiding plate.

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